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**ABB STOTZ-KONTAKT GmbH**

**ABB i-bus® KNX**

**Blind/Roller Shutter Actuator JRA/S**

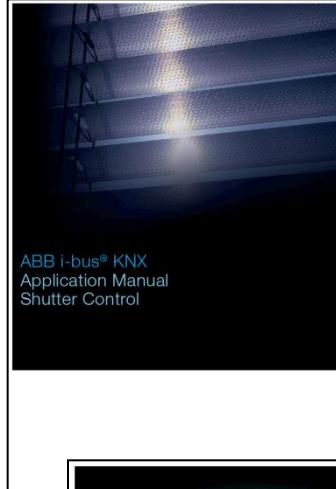


# Blind/Roller Shutter Actuator JRA/S New Generation

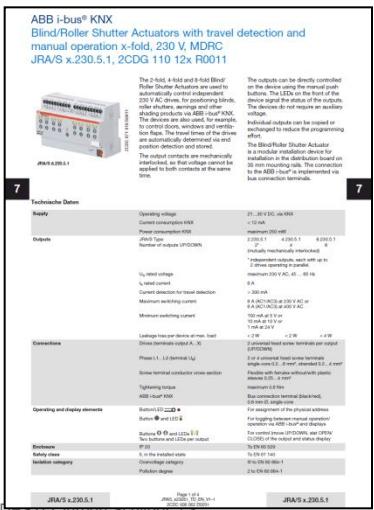
- The Blind/Roller Shutter Actuators JRA/S facilitate complex demands on modern sun protection and ventilation control systems, without sacrificing comfort, cost-effectiveness and safety



# Blind/Roller Shutter Actuator JRA/S Documentation



- Product Manual
- Product Information
- Application Manual  
“Shutter Control”
- Technical datasheet



# Blind/Roller Shutter Actuator JRA/S

## Product range overview

„Premium“ <b>JRA/S X.230.5.1</b> 2-fold 4-fold 8-fold	„Standard“ <b>JRA/S X.230.2.1</b> 2-fold 4-fold 8-fold	„Basic“ <b>JRA/S X.230.1.1</b> 2-fold 4-fold 8-fold
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The right device for every application.  
Universal range for many sun protection technology applications.  
2, 4, 8-fold Blind/Roller Shutter Actuators (230 V AC) with and without manual operation.  
Device for 24 V DC now also with manual operation and automatic travel detection.

# Blind/Roller Shutter Actuator JRA/S

## Device Overview „Premium“ JRA/S X.230.5.1, 4.24.5.1

### JRA/S 2-, 4-, 8-fold 230 V and 4-fold 24 V DC

- With Travel Detection
- With Manual Operation and status LEDs
- The devices do not require an auxiliary voltage (only KNX)
- Universal head screw terminals



2-fold



4-fold



8-fold



4-fold, 24 V DC

# Blind/Roller Shutter Actuator JRA/S

## Device Overview „Standard“ JRA/S X.230.2.1

### JRA/S 2-, 4-, 8-fold 230 V

- With Manual Operation and status LEDs
- Same application programm like „Premium“-devices but without the functions of „Travel Detection“
- The devices do not require an auxiliary voltage (only KNX)
- Universal head screw terminals



2-fold



4-fold



8-fold

# Blind/Roller Shutter Actuator JRA/S

## Device Overview „Basic“ JRA/S X.230.1.1

### JRA/S 2-, 4-, 8-fold 230 V

- Without manual Operation and status LEDs
- Same application programm like „Premium“-devices but without the functions of „Travel Detection“
- The devices do not require an auxiliary voltage (only KNX)
- Universal head screw terminals



2-fold



4-fold



8-fold

# Blind/Roller Shutter Actuator JRA/S

## Type designation

JRA/S	w	x	y	z
Number of outputs	4			
Nominal voltage		230		
Hardware - properties			5	
Version				1

w: Number of outputs (2, 4, or 8)

x: Rated voltage (24 V or 230 V)

y: Hardware properties

1 = standard

2 = with manual operation

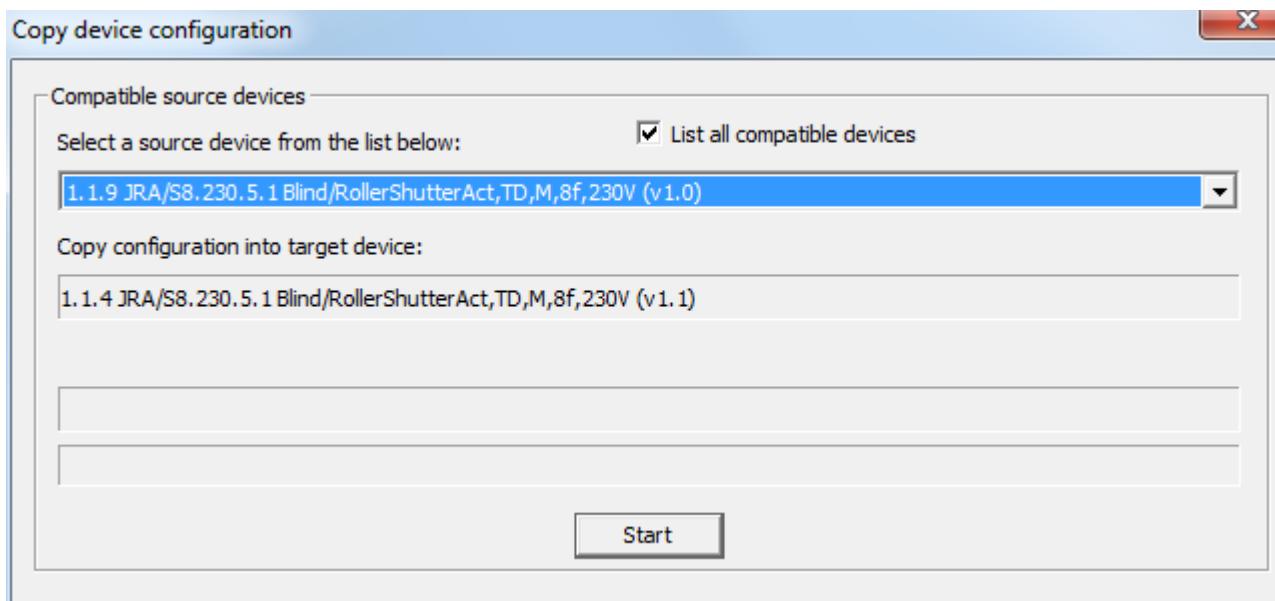
5 = with automatic travel detection and manual operation

z: Hardware version

# Blind/Roller Shutter Actuator JRA/S

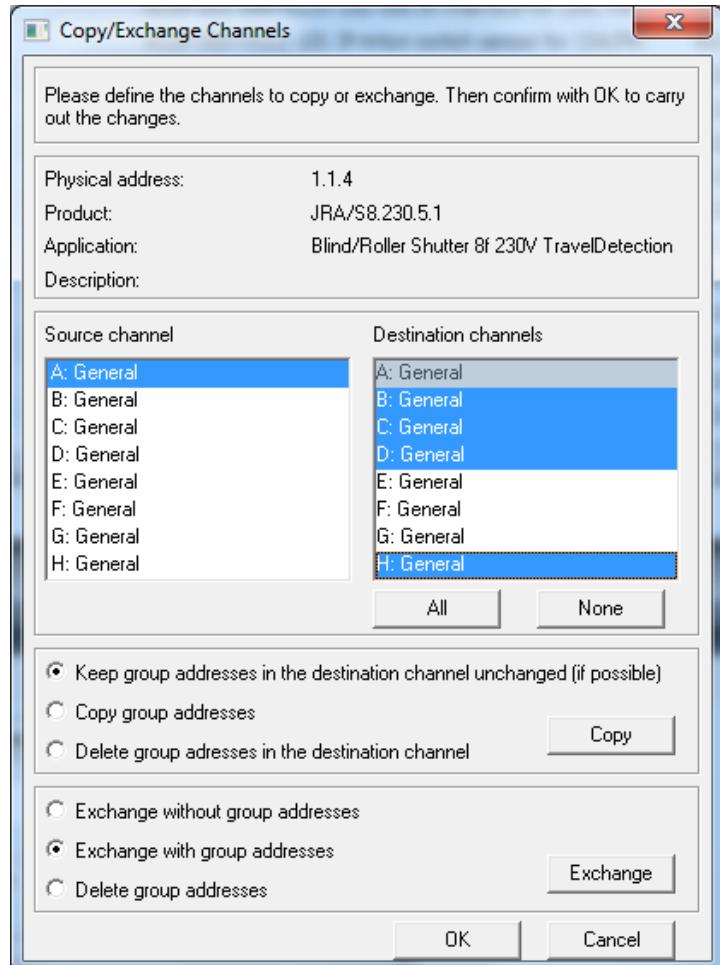
## New software innovations

- For devices from ETS3 or higher, it is possible to assume the parameter settings and group addresses from earlier application program versions. Furthermore, conversion can be applied to transfer the existing parameterization of a device to another device.
- Example Conversion



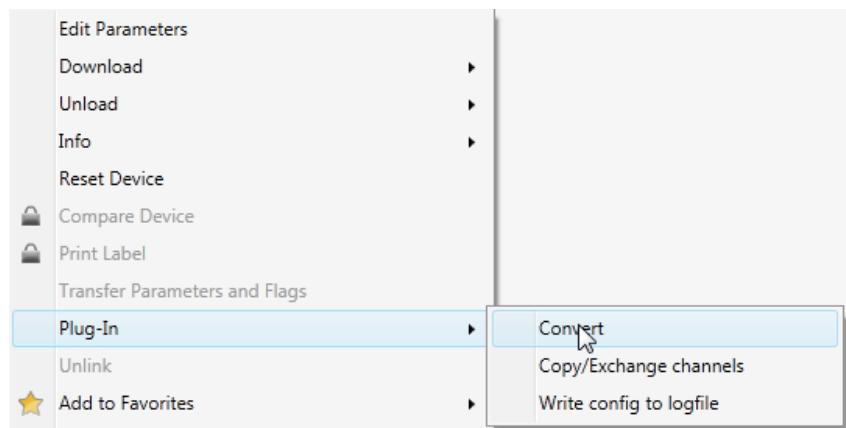
# Blind/Roller Shutter Actuator JRA/S

## New software innovations



### Simplified commissioning: copy and exchange

- Copy one channel to one or more channels
- Exchange two channels
- Copy / exchange with or without group addresses

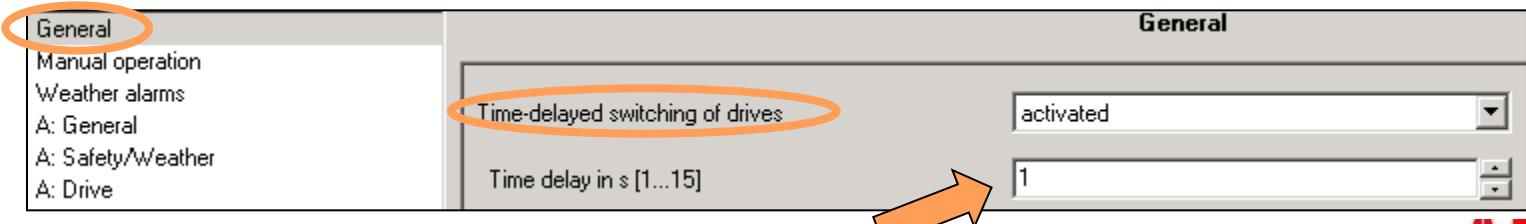


# Blind/Roller Shutter Actuator JRA/S

## New software innovations

### Time-delayed switching of drives

- In large KNX systems, a large starting current peak is generated if all drives start simultaneously due to central telegrams
- The current peak can be limited by time delayed switching of the outputs
- The time delay applies for all outputs or connected drives of the actuator
- The central travel telegrams are executed with a delay
  - Move to height for sun 0..255, Adjust slat for sun 0..255
  - Block, Forced operation
  - Wind alarm, Rain alarm, Frost alarm
  - ...

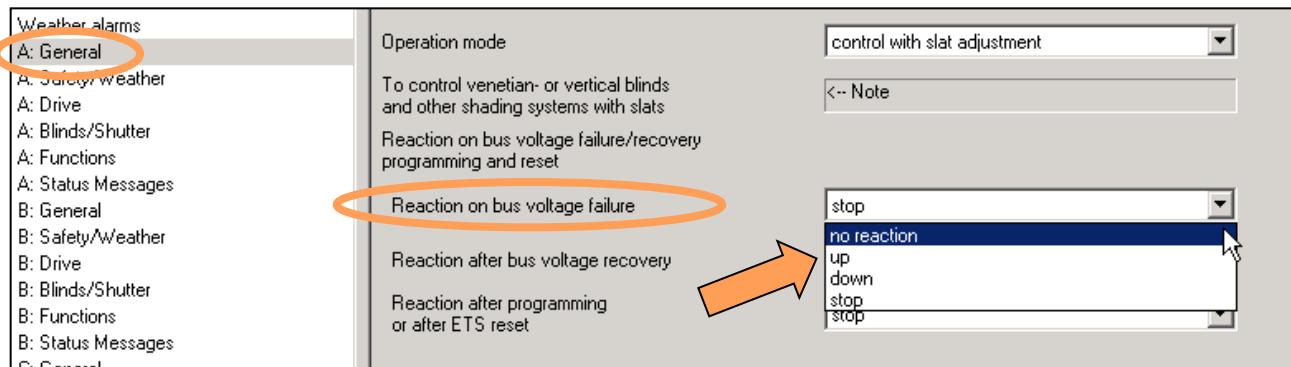


# Blind/Roller Shutter Actuator JRA/S

## New software innovations

### Reaction on bus voltage failure (per output)

- no reaction  
The output contacts remain in their current state
- up/down  
The blind/shutter (s) move up or down
- Stop  
If the blind/shutter is performing a movement, this movement stops immediately. If the blind/shutter is at rest, it will remain unchanged in its position

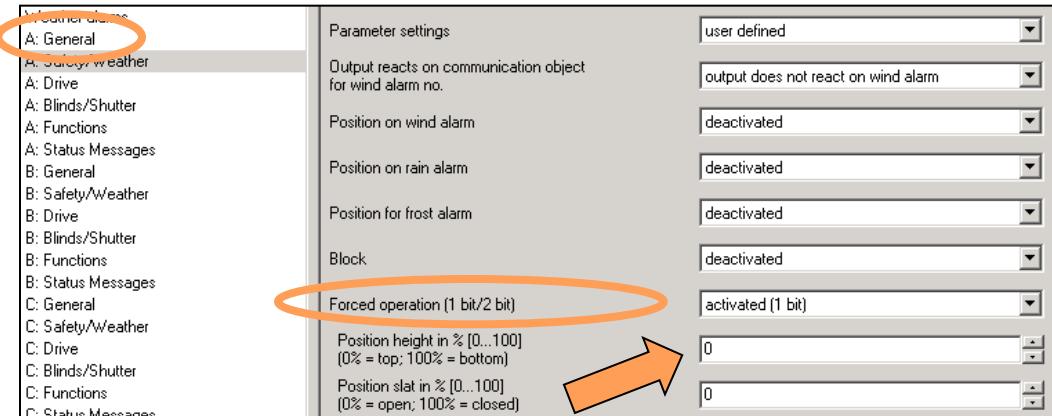


# Blind/Roller Shutter Actuator JRA/S

## New software innovations

### Forced operation 1 bit or 2 bit

- With the function Forced operation, the blind/shutter can move via a 1 bit telegram to a determined position or it can move up or down via 2 bit telegrams and operation can be blocked
  - activated (1 bit)
    - Position height in % [0...100]
    - Position slat in % [0...100]
  - activated (2 bit)
    - The communication object Forced operation 2 bit is enabled

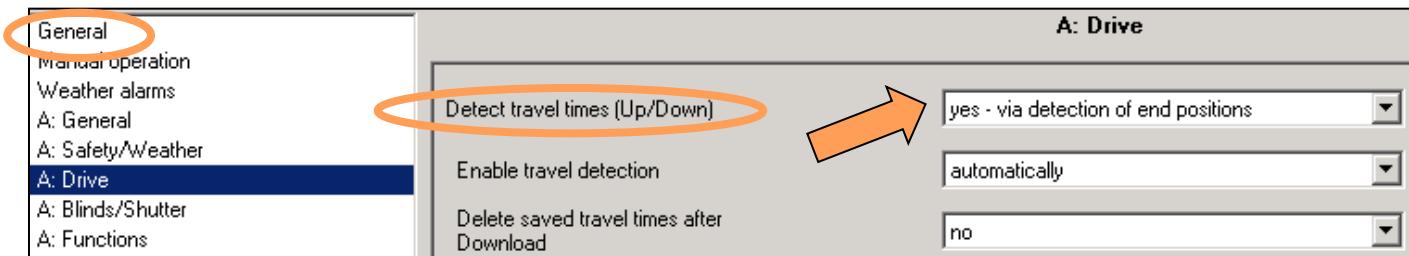


# Blind/Roller Shutter Actuator JRA/S

## New software innovations

### Detect travel times (only x.y.5.1)

- Determine the travel times via current detection
- The travel times are automatically and permanently determined during ongoing operation and/or via object "Trigger travel detection"
- Advantage
  - Compensation for changes in the length of the blind/shutter due to external influences (frost, UV rays or the use of heavier blind/shutter types)
  - Malfunction drive fault (no current flow or invalid travel times)

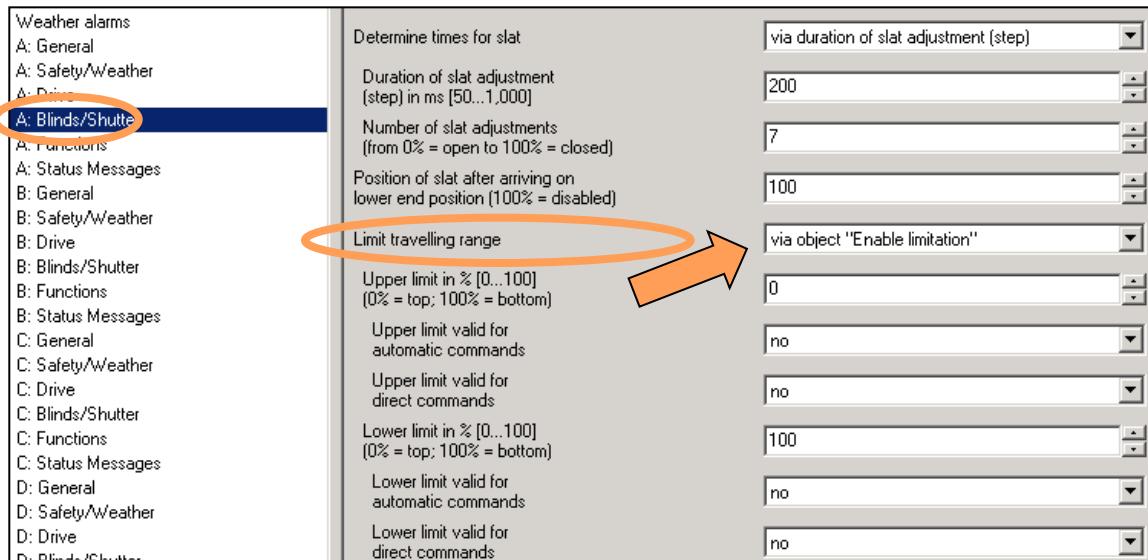


# Blind/Roller Shutter Actuator JRA/S

## New software innovations

### Limit travelling range

- For certain applications, the travelling range of the blinds/shutters can be limited for the user
  - via object "Blinds/shutters up-down limited"
  - via object "Enable limitation"
- The limitation only acts with a telegram to the communication object Blinds/shutters up-down limited and a scene telegram



# Blind/Roller Shutter Actuator JRA/S

## New software innovations

### Set dead times

- The sun protection system dead times of the blind/shutter mechanisms can occur individually. They can be caused by ageing of the blind/shutter, e.g. mechanical loading. It may occur that precision positioning of the blind/shutter may no longer be possible.
  - Dead time blinds/shutters from bottom until moving up
  - Dead time of slat from 100% closed until slat turn
  - Slippage of blinds/shutters on change of direction

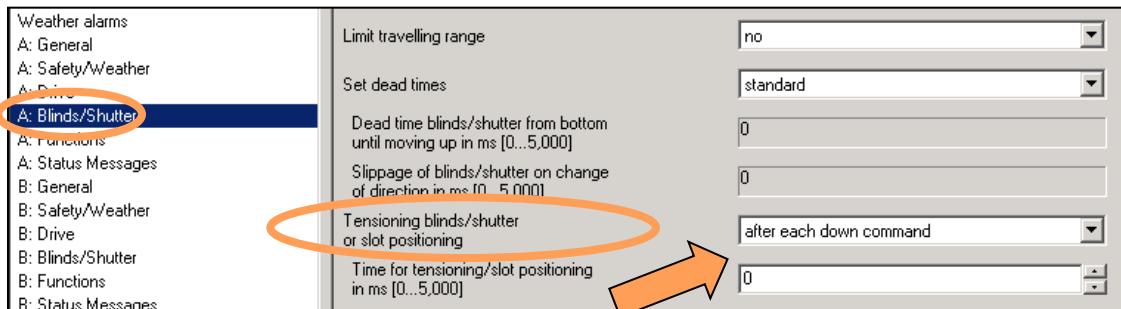
<p>Weather alarms A: General A: Safety/Weather A: Drive <b>A: Blinds/Shutter</b> <span style="border: 1px solid orange; border-radius: 50%; padding: 2px;"> </span></p> <p>A: Functions A: Status Messages B: General B: Safety/Weather B: Drive B: Blinds/Shutter B: Functions B: Status Messages C: General C: Safety/Weather C: Drive C: Blinds/Shutter C: Functions C: Status Messages</p>	<p>Determine times for slat</p> <p>Duration of slat adjustment (step) in ms [50..1,000] 200</p> <p>Number of slat adjustments (from 0% = open to 100% = closed) 7</p> <p>Position of slat after arriving on lower end position (100% = disabled) 100</p> <p>Limit travelling range no</p> <p><b>Set dead times</b> <span style="border: 1px solid orange; border-radius: 50%; padding: 2px;"> </span></p> <p>Dead time blinds/shutter from bottom until moving up in ms [0..5,000] 0</p> <p>Dead time of slat from 100% closed until slat turn in ms [0..5,000] 0</p> <p>Slippage of slat on change of direction in ms [0..5,000] 0</p>
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# Blind/Roller Shutter Actuator JRA/S

## New software innovations

### Tensioning blinds/shutters or slot positioning

- These parameters for slat adjustment are available exclusively in operation mode control without slat adjustment
- This function is used for tensioning or tightening textile blinds/shutters (e.g. the cloth of an awning with articulated arms) or for setting slot positioning (e.g. light or ventilation slots) on roller shutters
- In this way, the blind/shutter is stopped at the end of a DOWN motion and moved in the opposite direction for a parameterizable time
  - After each down command
  - Only after reaching lower end position

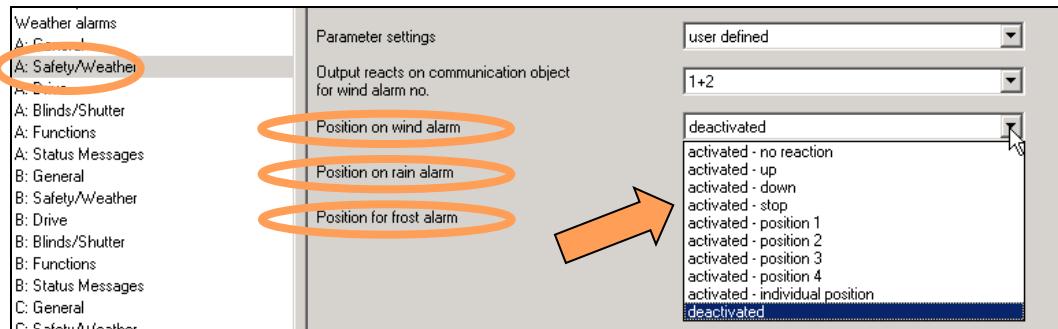


# Blind/Roller Shutter Actuator JRA/S

## New software innovations

### Enhanced parameter for position on wind-, rain- and frost alarm

- No reaction: It will remain unchanged in its position
- Up: The blind/shutter moves UP after a weather alarm is received
- Down: The blind/shutter moves DOWN after a weather alarm is received
- Stop: If the blind/shutter is performing a movement, this movement stops immediately. If the blind/shutter is at rest, it will remain unchanged
- Position 1...4: If one of these positions is selected, the blind/shutter (s) move to a preset position
- Individual position: Movement to one of the individual positions is possible (position height in % [0...100] and position slat in % [0...100])
- deactivated: No reaction occurs in the event of a weather alarm

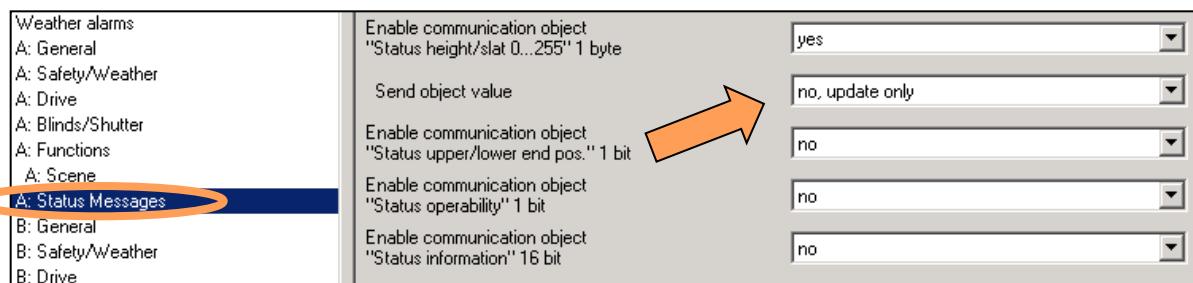


# Blind/Roller Shutter Actuator JRA/S

## New software innovations

### Enhanced status messages

- Height and slat (0...255, two separate com. objects)
- Upper and lower end position (two separate com. objects)
- Operability (to indicate to the user via an LED that the blinds/shutters can not be moved at the current time e.g. weather alarm)
- Automatic Sun Protection
- Information (16 bit)
  - Drive fault (no current flow with controlled drive, only available on devices of type JRA/S x.y.5.1)
  - Wind alarm
  - Drive in motion
  - ...

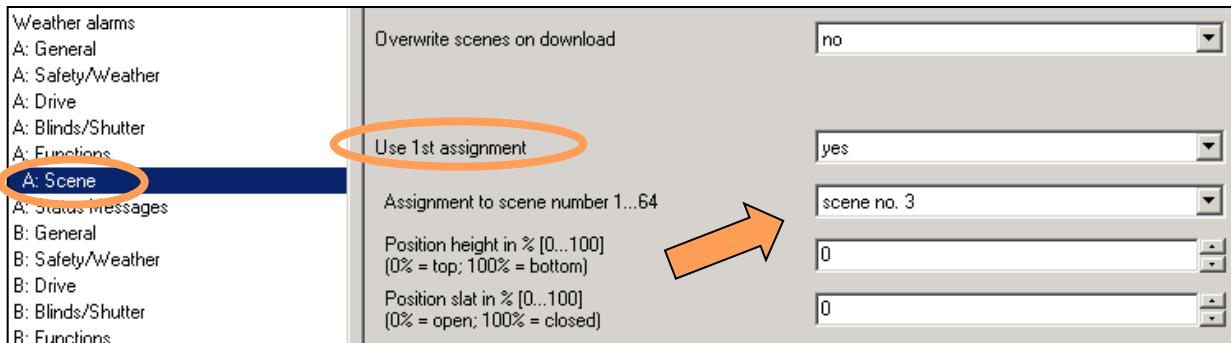


# Blind/Roller Shutter Actuator JRA/S

## New software innovations

### 8-bit scene

- Each blind/shutter output can be integrated in up to 18 scenes
- If a telegram is received on the communication object “Scene”, all outputs assigned to the sent scene number will then move to the saved scene position (call a scene), or the current position will be saved as a new scene position (store a scene)
  - Position height in % [0...100]
  - Position slat in % [0...100]

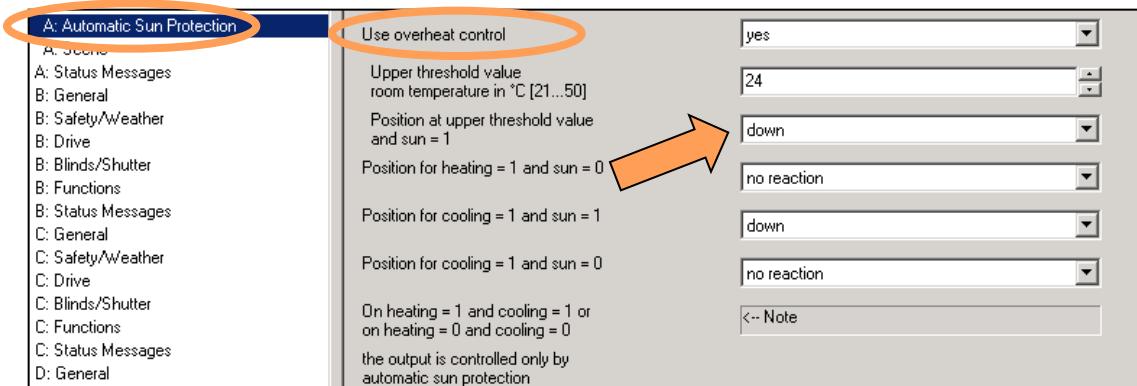


# Blind/Roller Shutter Actuator JRA/S

## New software innovations

### Enhanced automatic sun protection: Overheat control

- Heat up of the unoccupied room is avoided using overheat control
- If the temperature threshold here is reached or exceeded, the blinds/shutters will move to a parameterizable position, e.g. DOWN



# Blind/Roller Shutter Actuator JRA/S i-bus® Tool

**A status of output**

Operating mode | Control with slat adjustment (Blinds)

Weather/safety alarm

Status manual operation

Automatic sun protection

Heating/cooling automatic

Motor In Motion

Motor error

**Weather / safety alarms**

Wind alarm No.1

Wind alarm No.2

Wind alarm No.3

Rain alarm

Frost alarm

Forced operation

Block

**Deactivate**

**Positions 1-4 / Scene**

Move to position 1 | Set current position as position 1

Move to position 2 | Set current position as position 2

Move to position 3 | Set current position as position 3

Move to position 4 | Set current position as position 4

Recall scene no.

Store current position as scene no.

**Position / Control Hanging**

Current Position 0.4% (1)

Position Valid

**Move To Position**

Current Slat 0.4% (1)

Slat Valid

**Move To Position**

**Automatic Control**

Activate automatic control

**Deactivate**

Direct control blocked

Automatic control disabled

Sun

**Deactivate**

Current position height for sun

Position height for sun  **Write**

Current position slat for sun

Position slat for sun  **Write**

Presence

**Deactivate**

Heating

**Deactivate**

Cooling

**Deactivate**

Current room temperature

Room temperature  **Write**

**Trigger reference movement/travel detection**

Total travel time UP in s  **Write**

Total travel time DOWN in s  **Write**

Duration for slat adj. (step) in ms  **Write**

Number of slat adj. to turn slat from 0% (open) to 100% (close)  **Write**

Limited travel range

**Deactivate**

General weather alarms for all channels

Wind alarm No.1 **Deactivate**

Wind alarm No.2 **Deactivate**

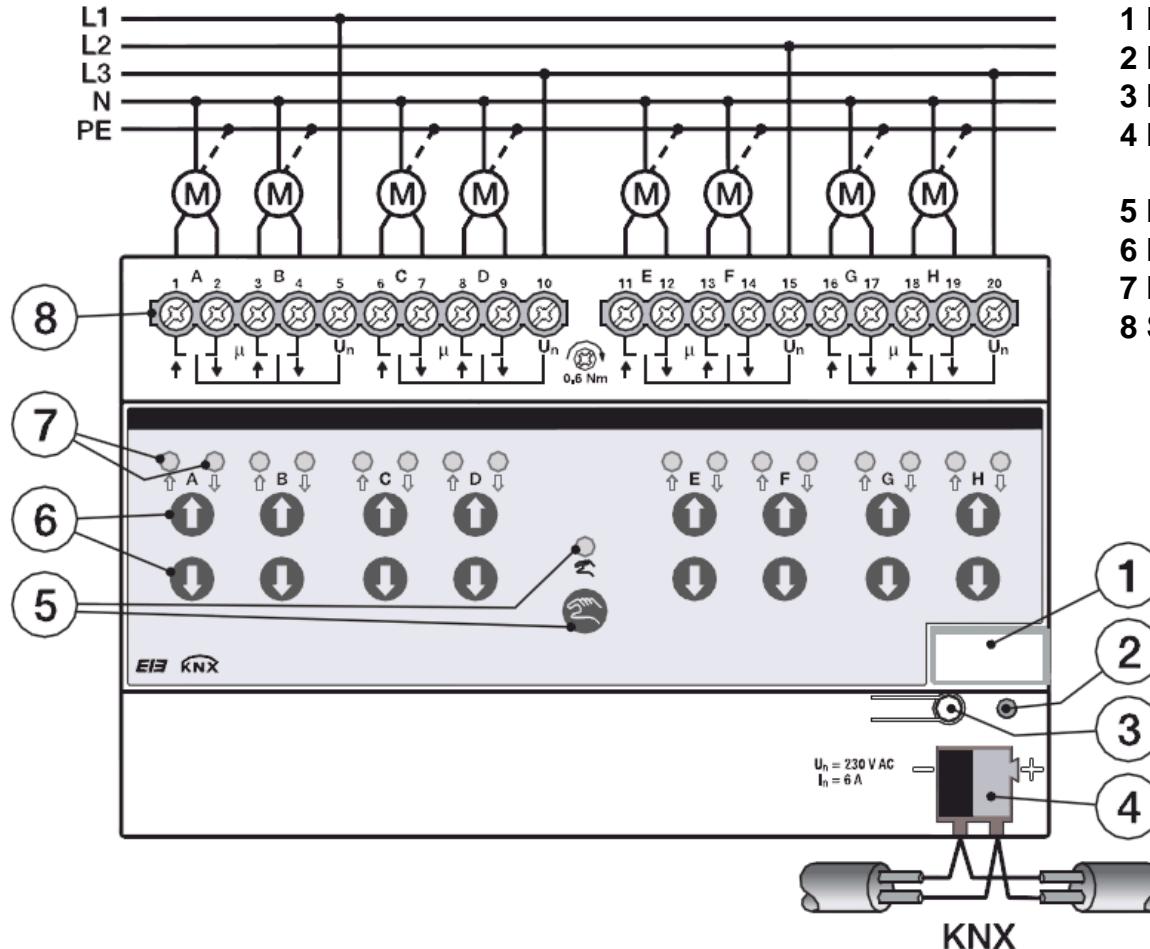
Wind alarm No.3 **Deactivate**

Rain alarm **Deactivate**

Frost alarm **Deactivate**

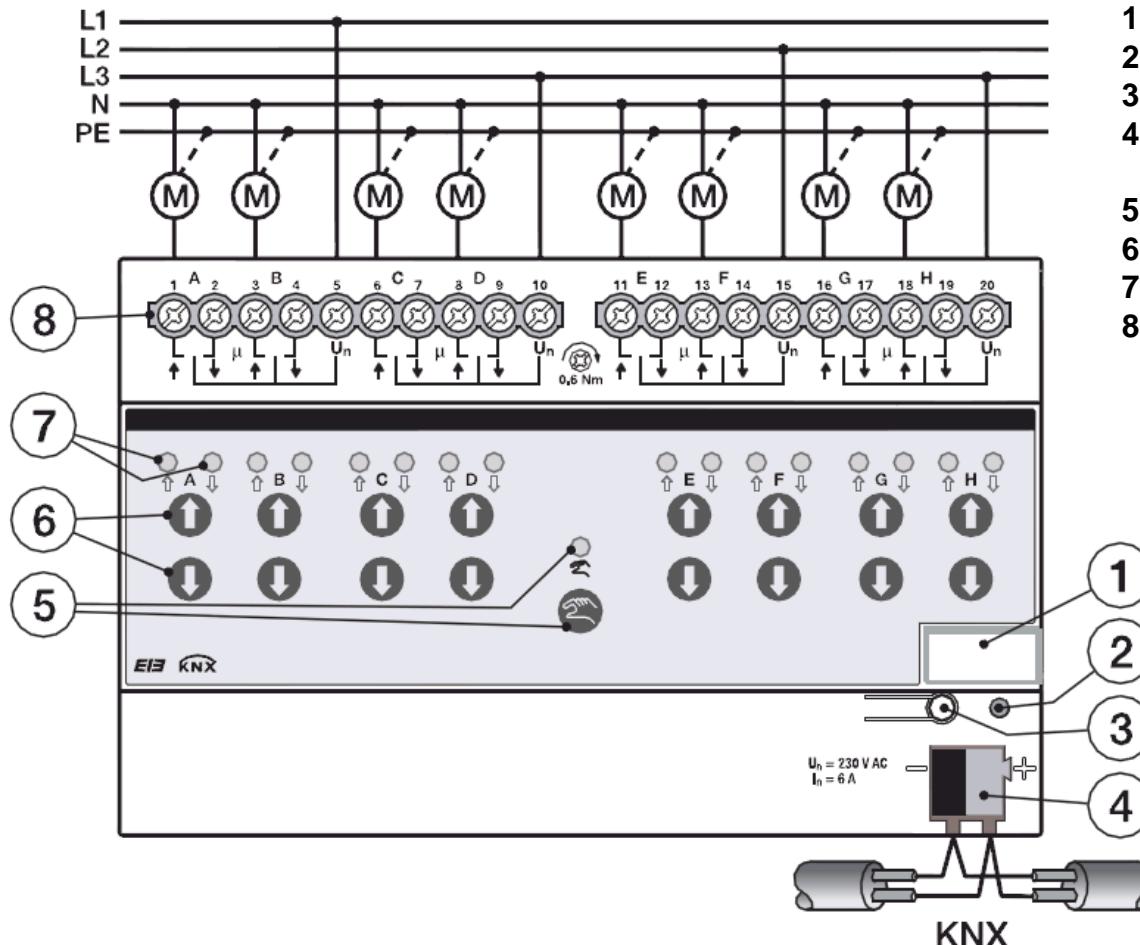
# Blind/Roller Shutter Actuator JRA/S X.230.5.1

## Connection to the blind and roller shutter drives



# Blind/Roller Shutter Actuator JRA/S X.230.5.1

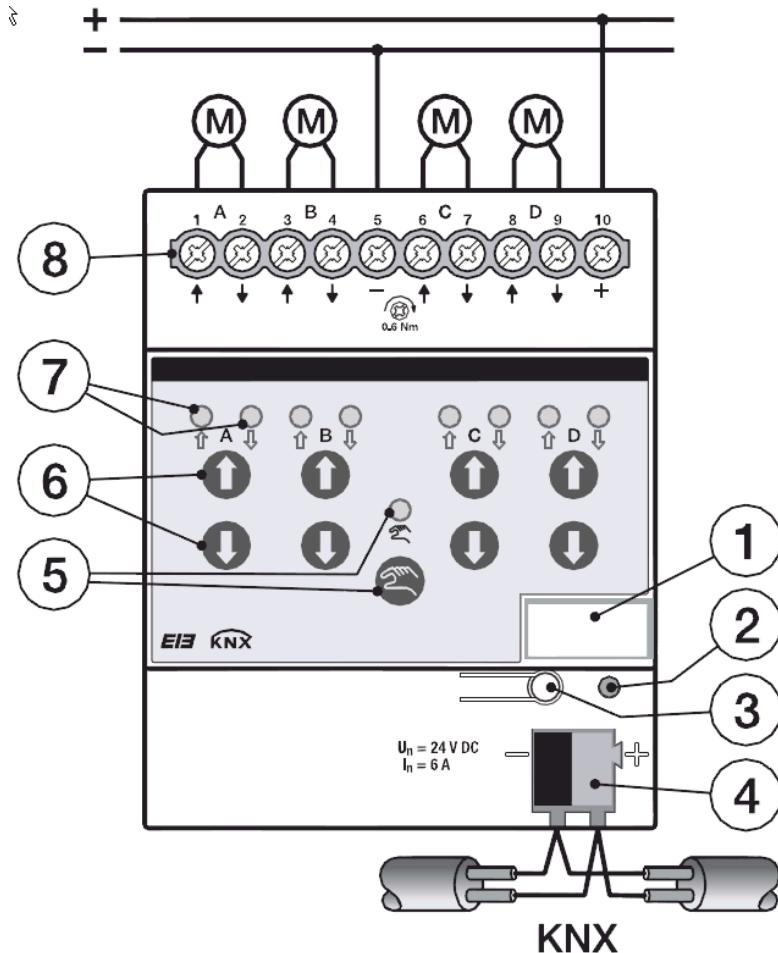
## Connection to ventilation flaps



- 1 Label carrier
- 2 LED
- 3 Button
- 4 Bus connection terminal  
ABB i-bus® KNX
- 5 Button and LED
- 6 Button (↑ ↓) (2 per output)
- 7 LEDs (↑ ↓) (2 per output)
- 8 Screw terminals  
(UP/DOWN, Phase L)

# Blind/Roller Shutter Actuator JRA/S 4.24.5.1

## Connection to 24V-DC drives



- 1 Label carrier
- 2 LED
- 3 Button
- 4 Bus connection terminal  
ABB i-bus® KNX
- 5 Button and LED
- 6 Button (2 per output)
- 7 LEDs (2 per output)
- 8 Screw terminals  
(UP/DOWN, Phase L)

# Blind/Roller Shutter Actuator JRA/S

## Operating controls

**Push buttons are located on the front of the device for manual operation**

- Button  „Manual operation“
  - Switch to „Manual operation“ and „KNX mode“
- Button   „Output A...X UP/DOWN“
  - KNX mode: No reaction
  - Manual operation:
    - Long operation: UP/DOWN or opening/closing of the contact
    - Short operation: Slat adjustment /STOP

# Blind/Roller Shutter Actuator JRA/S

## Manual operation

### Function

- As standard button “manual operation” is enabled and switch on and off is possible using it
- Switch on of manual operation:
  - Press  button until the yellow LED  lights continuously
- Switch off of manual operation:
  - Press  button until the yellow LED  switches off
- The yellow LED  flashes during the switchover process
- After connection to the KNX, an ETS download or ETS reset the device is in KNX operation
- The LED  is off
- All LEDs indicate their current state

# Blind/Roller Shutter Actuator JRA/S

## Display elements

**Indicator LEDs are located on the front of the device**

- LED  „Manual operation“
  - Off: The device is in KNX mode
  - On: The device is in manual mode
- LED  „Output A...X UP/DOW“
  - On : Upper limit position
  - On : Lower limit position
  - Both LED On: Safety function active, e.g. wind alarm
  - Flashes : Blind/shutter moving upwards
  - Flashes : Blind/shutter moving downwards
  - Both LEDs flash alternately (only JRA/S x.y.5.1): Malfunction drive fault (no current flow or invalid travel times)
  - Off: Intermediate position

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